To: wtc@nist.gov

From: Daniel Madrzykowski <madrzy@nist.gov>

Subject: Fwd: WTC Report Cc: robert.neale@dhs.gov

Mr. Cauffman:

Please submit Mr. Neale's comment (below) for consideration by the WTC authors.

Thank you

Dan

X-Sieve: CMU Sieve 2.2

From: "Neale, Robert" < Robert. Neale@dhs.gov>

To: "Daniel Madryzkowski (madrzy@nist.gov)" <madrzy@nist.gov>

Subject: WTC Report

Date: Thu, 7 Jul 2005 10:14:18 -0400

X-Mailer: Internet Mail Service (5.5.2657.72)

X-MailScanner:

X-MailScanner-From: robert.neale@dhs.gov

Dan,

I would like to comment on the draft WTC report, but am not sure to whom it should go. Could you please forward to the appropriate folks?

On page xlviii of the Exec Summary, there is a recommendation for upgrading professional skills through a "national education and training effort for fire protection engineers, structural engineers and architects." Do you think we could get "code enforcement officials" inserted in that recommendation somewhere?

Thanks.

Robert A. Neale, Training Specialist

Fire Prevention: Technical Curriculum

Prevention and Leadership Development Section

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Reason For Comments; Comments 1 through 5 are related to what appears to be missing from the reports:

- 1. Where in the reports are the description of and the analysis of the column splices? The FEMA report documents the bolted splices.
- 2. Again with the column splices: Since the building was designed for impact by an airplane, where is the analysis showing the bolted splices are adequate the resist the impact anticipated in the original design?
- 3. What would have been the affect on the building by the aircraft impact had the column splices been welded?
- 4. The composite bar joists were not the original design. What would have been the result had the steel trusses been used?
- 5. Report: NCSTAR1

p 201- Recommendation 1

Comment: The recommendation does not specifically indicate if this applies to buildings over 20 stories. The rationale does not indicate how the WTC collapse can be used to justify design changes on 20 story buildings.

Suggested revision: Define proposed building height and give rationale.

6. Report: NCSTAR1

p 212 - Recommendation 18

Comment: Maximizing remoteness of egress components is not specific enough. It should specifically state that it means the entire floor plan and not just the core.

Comment: The design for accidental loads is not specific enough. What is the suggestion..100psf overpressure??

7. Report: NCSTAR1

p 216 - Recommendation 25

Comment: The reports seem to indicate the WTC met or exceeded the code of the time. Is that the NIST assessment? If so, what is the justification for such a recommendation?

8. Report: NCSTAR1

p 217 - Recommendation 27

Comment: The calculations for projects are not part of the construction documents and are not provided to Owners. Misuse or copying of documents are some reasons for this. They remain the work product of the engineers and architect. Many professionals destroy the calculations once a project is completed and only maintain the drawings and specifications.

9. Report: NCSTAR1

p 218 - Recommendation 29

Comment: It is presumptive to say architects need to have education in structural engineering principles and design. That is already in their course work and licensing examination. What specifically is being recommended that needs to be included in training?